

**Remarks**

The present Amendment amends claims 11, 17, 22, and 23, cancels claims 9, 10, and 14, and adds claim 25-27. Accordingly, the application includes twenty (20) total claims, three (3) of which are in independent form. Applicant expects no claim fees being due upon submittal of this Amendment. With the two month extension for filing this Amendment, Applicant herewith has electronically submitted the fee of \$225. For any other fees which are deemed necessary following submittal of this Amendment, the undersigned hereby authorizes such fees to be charged to Deposit Account No. 061910.

As a preliminary matter, the undersigned thanks the Examiner for the courtesy of granting a brief telephonic interview on August 7, 2007, regarding the pending application.

In the Office Action, the Examiner objected to claim 11 because "value" should be replaced with "valve." Applicant thanks the Examiner for pointing out the informality and has appropriately amended claim 11. Accordingly, Applicant respectfully requests that the Examiner withdraw the claim objection.

In the Office Action, the Examiner rejects claims 2-6, 11-13, 16, 22, and 23 under 35 USC 112, first paragraph, as failing to comply with the written description requirement. The Examiner alleges that the "tangential orientation" of the disc in the closed position of the closure member is not supported by Applicant's specification or drawings. Applicant respectfully traverses the rejection and points out that Applicant's Figures disclose this orientation. However, to further advance prosecution, Applicant has amended the claims to remove the references to the disc's tangential orientation in the closed position of the closure member. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection.

In the Office Action, the Examiner rejects claims 2-5, 12, 16, and 22 under 35 USC 102(b) as being anticipated by US Patent No. 3,134,570 (Jarrett) and rejects claims 6 and 13 under 35 USC 103(a) as being unpatentable over Jarrett in view of US Patent No. 4,826,132 (Moldenhauer). Applicant respectfully traverses the 102(b) rejections with respect to Jarrett and the 103(a) rejections based on Jarrett in combination with Moldenhauer.

The present invention provides a shut-off valve including a number of features that are shown neither solely nor collectively in the cited art. For example, in certain embodiments of the

present invention, as reflected in amended claim 11, a closure member of the valve includes a head oriented toward a first duct of the chamber, with such head having a convex sealing face with respect to the first duct. In turn, the convex sealing face at least partially enters an inner opening of the first duct in a closed position of the closure member. In addition, a disc is integrally formed with the closure member head and extends to outer surfaces of the chamber. Claim 11, as amended, also provides that in the closed position of the closure member, "the disc has a substantially smooth transition to an internal wall of the second duct."

The valve of claim 11 is configured to operate in at least two positions, including a first valve position where the head is above an inner opening of the first duct in an open position of the closure member and a second valve position where the head is below the first duct inner opening in an open position of the closure member. The substantially smooth transition of the disc in the closed position of the closure member prevents collection of fluid within the chamber regardless of whether the valve is in the first position or in the second position. Therefore, amended claim 11 claims a shut-off valve having features that are believed by Applicant to not be taught or suggested by Jarrett.

For example, Jarrett neither teaches nor suggests a valve having a closure member with disc integrally formed therewith which has a substantially smooth transition to an internal wall of a second duct in a closed position of the closure member. Instead, Figures 1-3 of Jarrett show the diaphragm 16 or 16a with a substantially non-smooth transition to the valve chamber 15 or 15a so as to form a pocket or depression between the diaphragm 16 or 16a and the valve chamber 15 or 15a. This is an important distinction from Applicant's invention because this non-smooth transition of the diaphragm 16 or 16a provides a place where residual liquid can settle if the valve is positioned in the second valve position, as provided in claim 11, where the head is below the first duct inner opening in an open position of the closure member. In turn, the valves taught by Jarrett would fall short of preventing collection of fluid within the chamber in both the first and second valve positions, as provided in claim 11.

Therefore, Applicant believes new claim 11 is patentable over Jarrett. In turn, the rejections under Section 103(a) with respect to Jarrett in view of Moldenhauer are traversed as well, particularly since Moldenhauer appears to be cited only for its description of having the

closure member made of a flexible plastic. As such, Moldenhauer does not remedy the above-described defects in Jarrett with respect to claim 11. Accordingly, upon a finding of allowance for claim 11, the underlying dependent claims, claims 2-6, 12, 13, 16, and 22 are allowable as well.

In the Office Action, the Examiner rejects claims 17-21 and 23 under 35 USC 103(a) as being unpatentable over Jarrett in view of US Patent No. 5,277,401 (Butler). Applicant respectfully traverses the 103(a) rejections based on Jarrett in combination with Butler.

Amended claim 17 provides a shut-off valve including a number of features that are shown neither solely nor collectively in the cited art. For example, a shut-off valve used at a bottom of a tank containing a liquid comprises a closure member including a central core having a head oriented toward the inlet duct. The shut-off valve also comprises a flexible circular disc oppositely disposed from the inlet duct and integrally formed with the head. In an open position of the closure member the sealing face of the head is disengaged from an inner opening of the inlet duct and is below the inlet duct inner opening thereby permitting free flow of the liquid between the ducts. The sealing face of the head engages with the inlet duct inner opening in the closed position of the closure member thereby preventing the free flow of the liquid between the ducts. As amended, claim 17 provides that "the disc has a substantially smooth transition to an internal wall of the outlet duct in the closed position of the closure member thereby preventing collection of the liquid within the chamber." Therefore, amended claim 17 claims a shut-off valve having features that are believed by Applicant to not be taught or suggested by Jarrett or Butler solely, or in combination.

For example, neither Jarrett nor Butler teach or suggest a shut-off valve used at a bottom of a tank containing liquid having a closure member including a central core having a head oriented toward the inlet duct of the chamber and a flexible circular disc oppositely disposed from the inlet duct and integrally formed with the head, wherein the disc has a substantially smooth transition to an internal wall of the outlet duct in the closed position of the closure member thereby preventing collection of the liquid within the chamber.

In the Office Action, the Examiner admits that Jarrett does not teach the shut-off valve attached to the bottom of the tank, but cites Butler for the apparently sole teaching that it would

have been obvious to modify the shut-off valve of Jarrett by installing the valve on the bottom of a tank. Applicant respectfully points out, however, that Butler does not remedy the deficiencies of Jarrett with respect to claim 17. For example, if one were to simply install the valve of Jarrett on the bottom of a tank with the end 22 or 22a below the opening to the connection 13, the valve would at least still not provide the disc having a substantially smooth transition to an internal wall of the outlet duct in the closed position of the closure member thereby preventing collection of the liquid within the chamber. On the contrary, the valves of Jarrett as modified by Butler would still fall short of the valve of claim 17 because fluid would collect in the pocket or depression formed between the diaphragm 16 or 16a and the valve chamber 15 or 15a. Further, Butler does not teach how one would modify the valve of Jarrett to arrive at the claimed invention of claim 17.

Thus, Applicant believes amended claim 17 is patentable over Jarrett in view of Butler. Accordingly, upon a finding of allowance for claim 17, the underlying dependent claims, claims 18-21 and 23 are allowable as well.

In the Office Action, the Examiner rejects claim 24, and claims 9, 10, and 14 depending therefrom, under 35 USC 103(a) as being unpatentable over Jarrett in view of US Patent No. 4,828,219 (Ohmi). Applicant respectfully traverses the rejection with respect to Jarrett in view of Ohmi. However, Applicant has canceled claims 9, 10, and 14, and amended claim 24 to depend from claim 11 in an effort to advance prosecution of the application. Accordingly, Applicant believes that the rejection of claim 24 should be withdrawn for at least the reasons presented above with respect to claim 11, and requests that the rejection of claims 9, 10, and 14 be withdrawn as it is moot.

Applicant has added new independent claim 25, and depending claims 26-27. Claim 25 bears some similarity to claim 11, but has additional and different features from claim 11. Claim 25 is directed to a shut-off valve comprising, *inter alia*, a body including first, second, and third ducts each extending from the chamber with a closure member selectively positionable to engage and disengage with the inner opening of the first duct. The flexible disc has, *inter alia*, a substantially smooth transition to an internal wall of both the second and third ducts in the closed position of the closure member, and the shut-off valve is configured to operate in at least two

valve positions including a second valve position where the head is below the first duct opening in an open position of the closure member and where the substantially smooth transition of the disc in the closed position of the closure member prevents the collection of the fluid within the chamber. Applicant believes that the features of new claim 25 are not disclosed in the cited references, solely or in combination, and therefore believes that it is patentable over the cited art. Accordingly, upon a finding of allowance for claim 25, the underlying dependent claims, claims 26 and 27, are allowable as well.

Applicant believes that no new matter will be introduced by entry of these new and amended claims and that such are fully supported by the specification and application as a whole. Applicant has added and amended the claims solely to advance prosecution of this application and to obtain the allowance of claims at the earliest possible date. No admission should be inferred by these amendments. Applicant reserves the right to prosecute the originally filed claims in a continuation application.

In light of the above, applicant submits that the present rejections should be withdrawn. If the Examiner feels that prosecution of the present application can be materially advanced by a telephonic interview, the undersigned would welcome a call at the number listed below.

Respectfully submitted,



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